Temporal Risk Resolution: Utility versus Probability Weighting Approaches

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Abstract

We report the results of an experimental investigation in which attitudes toward temporal risk are captured by eliciting individuals' trade-offs between the likelihood of winning a prize and the timing of risk resolution. Our elicitation method facilitates comparing two approaches to temporal risk. Based on the normatively powerful Kreps and Porteus' (1978) recursive expected utility (EU), the first approach reveals attitudes toward temporal risk resolution via the utility function. The second approach relies on the descriptively appealing rank-dependent utility (RDU) and assumes that preferences about the timing of risk resolution are revealed via probability weighting. We find that subjects prefer early resolution of risk. This preference corresponds, in terms of recursive EU, to a convex relationship between intertemporal substitution utility and utility for risk. Under the second approach, subjects distort the probabilities for both delayed and immediately resolved lotteries. When risk resolution is delayed, we observe less sensitivity to probabilities. These findings show that the RDU-based approach to temporal risk is a better predictor of behavior than recursive EU. Additionally, this approach is consistent with individuals discounting the likelihood of future risks.